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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,183	01/02/2001	George Beshara Bendak	AMCC4960	1095

7590 04/02/2004
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EXAMINER

VINCENT, DAVID ROBERT

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/753,183

Applicant(s)

BENDAK ET AL.

Examiner

David R Vincent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Boer (US 6,658,013) in view of Elliot (US 6,587,470).

1. '013 discloses a BLSR (e.g., Figs. 2-5; cols. 1-2, especially col. 2, lines 23-33) system using a pair of ICs (G1 G2, switch controller, col. 7, lines 9-16), a first relay device (e.g., G1, Fig. 3B), a switch (S1 in G1), a default input (e.g., 206W) and a duplex output (206P), a control port (between S1 and C1), a default output (204W), a duplex output connected to the default input (any protection paths connected to related working path, e.g. 206P; see where Fig. 3B, is described as using the 206W as the input, and 204W as the default output but then using 206P as an second mode output, col. 8, especially lines 23-35; and then where 206P is used as an input, col. 11, lines 5-20; therefore all paths are duplex, note bi-directional arrows on rings 200 and 210, Figs. 2-5), a second relay (G2), a default

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input (202W, Fig. 5C), a duplex input (212W or 212P), a default output (e.g., 204W, Fig. 5C), a duplex output (202P) connected to the default input (202W; col. 11), a decoder (input optical data gets converted into electrical data and decoded to be read, as in allowing the switch and controller to know where the data is going or if there are errors in the data), an encoder (the data then gets re-encoded back into optical data as is part of using BLSR systems and/or SONET frames, complying with SONET frame structure, cols. 1-2; col. 6, lines 30-54). However, '013 fails to go into detail about the actual construction of the various devices. Therefore, '013 fails to particularly call for IC relay devices, as specified in claims 1, 8, 12.

Elliot discloses using BLSR (Fig. 13, col. 4, lines 35-41; col. 15, lines 25-29), multiple rings (col. 3, lines 29-36) and makes it more clear that the various devices such as the relay devices are ICs on a board (530, Fig. 5; 840, 850, Fig. 8; 850, Fig. 9; 840, Fig. 10; col. 4, lines 26-32; col. 7, lines 24-47; col. 9line 41-col. 10, line 14; cols. 13-14).

It would have been obvious to use ICs since the SONET/SDH connections typically are connected to boxes/back planes that comprise of cards with ICs on them. Using cards/boards makes the units more easily repaired.

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2. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of de Boer and Elliot and further in view of Kelty (US 6,690,884).

Although the combination of de Boer and Elliot disclosed complying with the STS/SONET frame structure, cols. 1-2; and converting from optical to electrical and back to optical (de Boer: OEO, col. 6, lines 30-54, the combination failed to particularly call for using the well known methods of FEC (or Reed-Solomon) techniques when converting back into optical signals.

Kelty teaches OEO (e.g., col. 4, lines 45-67), and FEC (cols. 1-3; cols. 5-7) in a BLSR environment (col. 5, lines 1-2; col. 7, line 66-col. 8, line 46). It would have been obvious to use FEC since it is well known that FEC adds to making the data more robust and allowing for more errors, longer transmissions, and more noise problems. The combination of de Boer and Elliot would simply add the FEC algorithms to the encoding programs used to convert the electrical data back into optical signals.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Chan (US 2003/0142678) discloses that it is well known to consider the actual fiber/SONET cable in a BLSR system (section 9) a duplex connection (section 10).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David R Vincent whose telephone number is 703 305 4957. The examiner can normally be reached on M-TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on 703 305 4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David R Vincent
Primary Examiner
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March 29, 2004